

Amendment to the Claims:

This listing of claims will replace all versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method, comprising:
receiving a power signal from a power input;
receiving a data signal from a data input;
receiving an Ethernet primary communication signal;
sending the Ethernet primary communication signal to a network device on a first medium;
sending a discovery signal to ~~[[a]]~~the network device on a second medium;
receiving a discovery response from ~~[[a]]~~the network device via the second medium; and
upon receipt of the discovery response, concurrently transferring the power signal, the ~~primary communication signal,~~ and the data signal on ~~a shared~~ the second medium to the network device.
2. (Original) The method as set forth in claim 1 further comprising the step of modulating the data signal in a manner interoperable with the power signal.
3. (Currently Amended) The method as set forth in claim 1 further comprising the step of receiving an Ethernet secondary data signal.
4. (Original) The method as set forth in claim 3 further comprising the step of multiplexing the data signal and the second data signal for transmission on the shared medium.
5. (Currently Amended) The method as set forth in claim 3 further comprising the step of concurrently transferring the Ethernet secondary data signal with the power signal, ~~the primary communication signal,~~ and data signal on the shared medium.

6. (Currently Amended) The method as set forth in claim 1 further comprising the steps of:

receiving an Ethernet secondary data signal;
converting the Ethernet secondary data signal into a bit-stream second data signal; and
concurrently transferring the second data signal on the shared-second medium with the power signal, the ~~primary communication signal~~, and the data signal.

7. (Original) The method as set forth in claim 6 further comprising the step of multiplexing the data signal and the second data signal for transmission on the shared medium.

Claims 8 - 9 (Canceled)

9. (Original) The method as set forth in claim 8 further comprising the steps of:

receiving an Ethernet data signal from an Ethernet input.
converting the Ethernet data signal into a second data signal; and
concurrently transferring the second data signal to the network device.

10. (Currently Amended) An apparatus comprising:

a power input for receiving a power signal;
a primary communication input for receiving an Ethernet primary communication signal;
a data input for admitting a data signal; and
~~means a modem for modulating the data signal with the power signal; where the data signal, the primary communication signal, and the power signal are concurrently transmitted on a shared medium to the network device;~~

wherein the Ethernet primary communication signal is provided to a network device on a first medium; and

wherein the data signal and the power signal are provided to the network device on a second medium.

11. (Original) The apparatus set forth in claim 10 wherein the means for modulating is a frequency shift keying scheme.

12. (Original) The apparatus set forth in claim 10 wherein the data is serial control data.

13. (Canceled)

14. (Currently Amended) The apparatus set forth in claim ~~[[13]]~~15 ~~wherein the means to convert is further comprising a micro terminal server to convert the Ethernet secondary data signal to a bit stream.~~

15. (Currently Amended) The apparatus as set forth in claim 10 further comprising:
a second ~~data-communication~~ input for ~~admitting-receiving an Ethernet~~ secondary data signal into the apparatus;
a multiplexer to combine the data signal and secondary data signal for transmission on the ~~shared-second~~ medium; and
~~means for modulating wherein the modem modulates the secondary data signal with the data signal and the power signal; and~~
wherein the data signal, secondary data signal, ~~the primary communication signal,~~ and the power signal are concurrently transmitted on the ~~shared-second~~ medium.

16. (Canceled)

17. (Original) The apparatus of claim 10 wherein the power signal is sourced from a DC power source.

18. (Original) The apparatus of claim 10 wherein the data input comprises an RJ-45 jack, wherein the RJ-45 jack connects the data input to a network.

19. (Original) The apparatus of claim 18 wherein the RJ-45 jack further includes any necessary transformers for impedance matching, isolation, and noise rejection.

20. (Original) The apparatus set forth in claim 10 further including sensing circuits which detect whether the network device connected to the network port requires power.

21. (Original) The apparatus of claim 20 wherein the sensing circuits require power and wherein the sensing circuits couple power and data signals and transmit them to the network device on the shared medium.

22. (Original) The apparatus of claim 20 wherein the sensing circuits detect that the network device does not require power and wherein the sensing circuits allow for passive transmission of data signals only.

Claims 23 - 32 (Canceled)

33. (Currently Amended) The apparatus of claim ~~[[32]]~~34, further comprising:
a discovery signal generator; and
a discovery signal detector;
wherein the discover signal generator is responsive to send a discovery signal to the network device through the means for modulating on the second output; and
wherein the discovery signal detector is configured to receive a discovery response signal that is responsive to the discovery signal via the means for modulating; and
wherein the means for modulating is responsive to provide the power signal to the network device after receiving the discover response signal.

34. (New) An apparatus, comprising:
a power input for receiving a power signal;
a primary communication input for receiving an Ethernet primary communication signal;
a data input for admitting a data signal;
a second primary communication input for receiving an Ethernet secondary communication signal;
a first output coupled on a shared medium to the network device; and
a second output coupled on a shared medium to the network device; and
means for modulating the data signal and Ethernet secondary communication signal with the power signal;

wherein the Ethernet primary communication signal is provided to the network device on the first output; and

wherein the means for modulating provides the power signal, data signal and Ethernet secondary communication signal on the second output.

35. (New) The apparatus set forth in claim 10, further comprising:

a discovery signal generator coupled to the modem; and

a discover signal detector coupled to the modem;

wherein the discovery signal generator is configured to send a discovery signal to the network device through the modem on the second medium;

wherein the discovery signal detector is configured to detect a discovery response signal responsive to the discovery signal via the modem; and

wherein the discover signal detector is responsive to detecting a discovery response signal to have the power signal provided to the network device on the second medium.